

**Abstract:**

The invention relates to a sensor for detecting a substance in a liquid. The sensor comprises a pillar shaped primary substrate and a sensor unit, e.g. a cantilever connected to the primary substrate. The sensor comprises detecting means e.g. in the form of a piezoresistive element, a strain gauge, a Si or C nanotube, a capacitor or a piezoresistor, for detecting a change of stress or mass generated on a surface area of the sensor unit, and an electric communication line for applying a voltage over said detection means, wherein at least one of the wires is integrated in the pillar shaped primary substrate. The sensor in the form of a cantilever may e.g. have a two-dimensional shape selected from the group consisting of square, rectangular, triangular, pentagonal, hexagonal, leaf shaped, circular and oval periphery. The primary substrate may be connected to a secondary substrate such as an electronic chip comprising contact pads corresponding with wire exits from the primary substrate.

Fig. 6